THE MERTON GROUP

Municipal Broadband Networks

Town of Milford, NH

March, 2003

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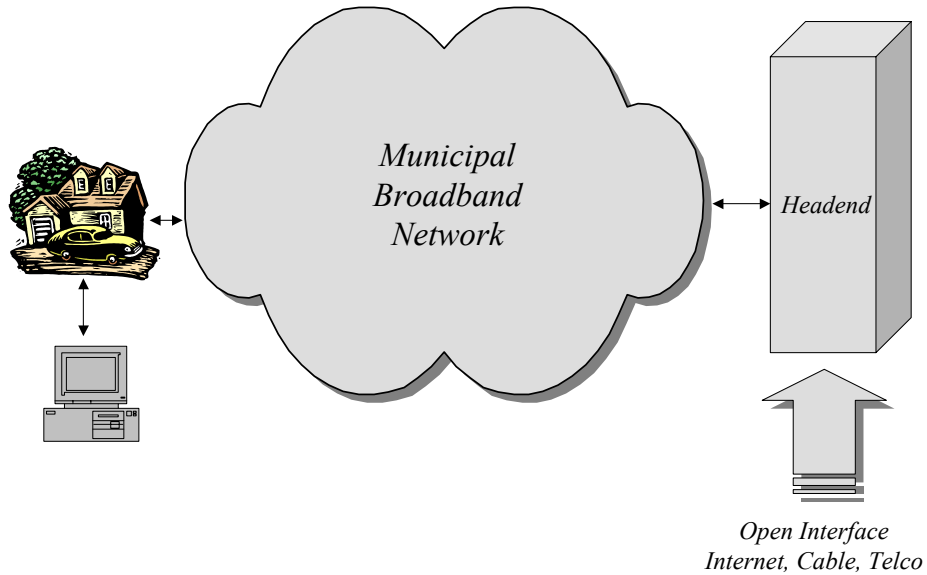
What is Municipal Broadband?

- *Optical fiber network owned by municipality (Town / Utility)*
- *Fiber connectivity to homes and commercial properties: 100 Mbps service, Fiber to the Home (FTTH)*
- *Integration of school, fire, police, public safety, healthcare*
- *<u>Open access network</u> allowing any service provider/ISP*
- *Municipality provides "bit" backbone only; service provider owns end-users*



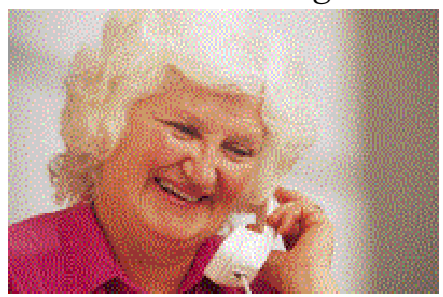
Current Options for Broadband

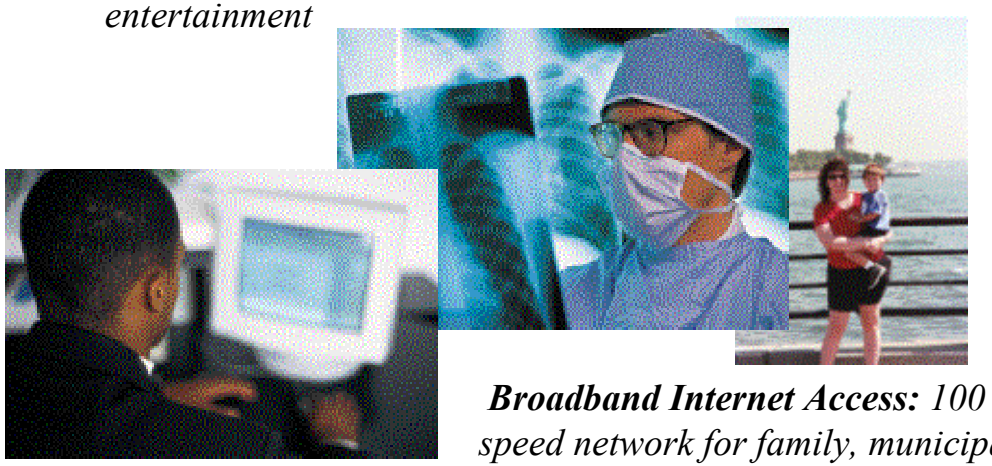
	Strengths	***Weaknesses***
	✓ *Incumbent network provider* ✓ *"Owns" all of the local customers*	X *High borrowing cost of capital* X *Unbundling of broadband poses business risk to existing services* X *Significant cuts in budget* X *Politically complex*
	✓ *Local CATV presence* ✓ *"Owns" the CATV customer*	X *Very bad cash position* X *Need to upgrade cable plants to support two-way broadband in outlying areas*
	✓ *Some broadband in larger cities and towns* ✓ *Some backbone infrastructure*	X *Limited to no financial capability* X *Serious negative cash flow*
Municipal Network	✓ *Capable of raising financing at low cost of capital* ✓ *Capable of local and targeted deployment* ✓ *No local regulatory problems*	X *No network operational skills, but can be easily outsourced* X *No infrastructure support capabilities, but can be easily outsourced*

Fiber-to-the-Home Services

Video Services: *Standard And enhance video services With HDTV digital TV entertainment*

Telephone Services: *Access To multiple telephone services providers, offering choice And cost savings*

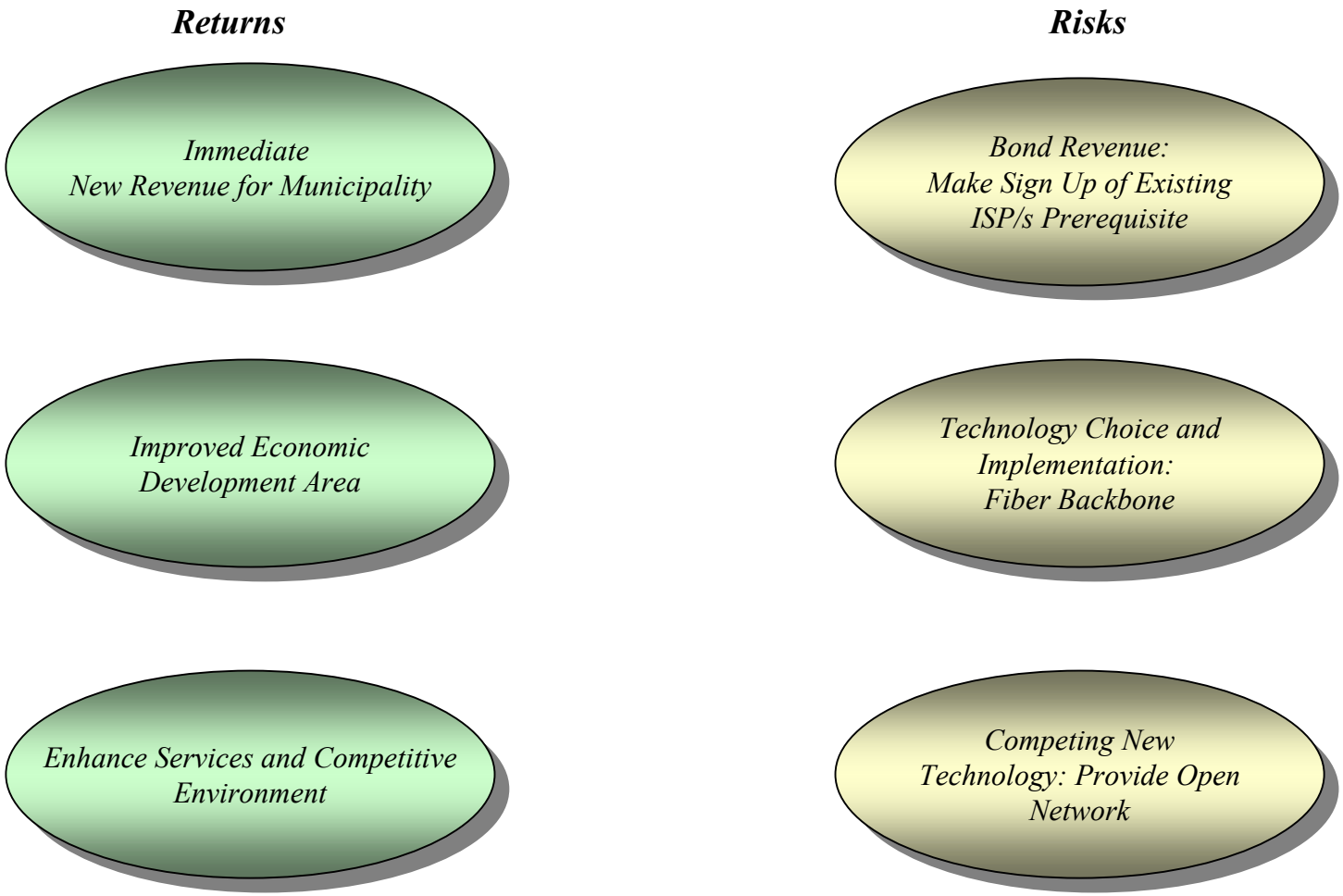




Broadband Internet Access: *100 Mbps or greater; A secure, ultra high speed network for family, municipal, medical, educational, public safety.*

Service Providers: Choice & Competition

What are Returns and Risks?



Key Driving Factors

- ***Revenue** opportunity; money stays within the system*
- *Promotion of **economic development** through:*
  - *Competition and choice in data, video and voice*
  - *Facilitation of regional broadband applications*
    - *Distance learning & training*
    - *Telemedicine*
    - *Telecommuting*
    - *Public safety*
    - *Wireless / mobile access*
- ***Creation of jobs** through new businesses and services*
- *Improved **quality of life** for citizens through offerings of high quality services at lower prices*

Problems for Individual Municipalities

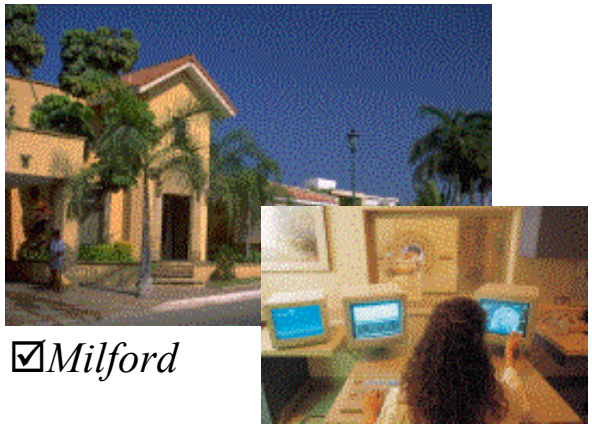
- *Lack of in-house expertise*
- *Lack of size to obtain economies of scale in purchases*
- *Lack of negotiating power with service providers due to lack of critical mass required to generate interest*
- *Financing risk*
- *Technology risk*

Enable Aggregation

- *Under NH Law, townships can join together and do collectively what they are allowed to do individually*
- *With collective action, achieve critical mass:*
  - *Achieve economies of scale in purchases, operations*
  - *Centralized need for expertise*
  - *Achieve sufficient size to attract service providers*
- *Make deployment decisions that make economic sense*
  - *Network must pay for itself; no taxpayer subsidies*
- *Outsource expertise to achieve scale economies*
- *Use most future-proof technology*

Key Demographic Factors for Municipal Broadband Success

Commercial Base



☑*Milford*

Good Demographics/ High Internet Usage

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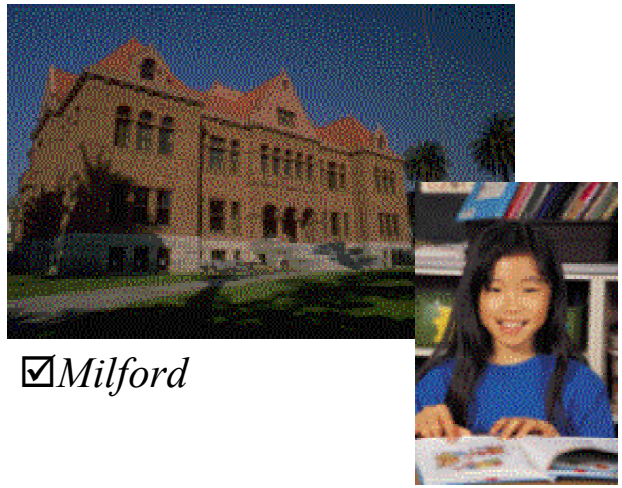
Public Services and Educational Usage



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High Density per Mile

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Demand for Enhanced Services

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Capital Costs Estimates

Capital Cost	*Assumption*	*Result*
• *Fiber Installation, New Trenching: $50,000 per mile* • *Fiber Installation, Existing Conduits/ Aerial: $20,000 per mile*	*10%-90% split between new trenching and existing conduits/aerial*	*$23,000 per mile*
Fiber Cost: $150 per mile per strand	*48 strands on backbone* *2 strands per home drop*	*$7,800 per mile*
Optical equipment and buried installations: $7,000 per mile	*Gigabit Ethernet Network architecture*	*$7,000 per mile*
FTTH drop and home electronics: $900 per home	• *Home has 100 foot frontage, or 60 homes per mile* • *30% penetration of homes, or 18 homes per mile serviced*	*$16,200 per mile*
TOTAL		*$54,000 per mile*
TOTAL per Home	*18 homes per mile serviced*	***$3,000 per Home Served***

Milford Specifics

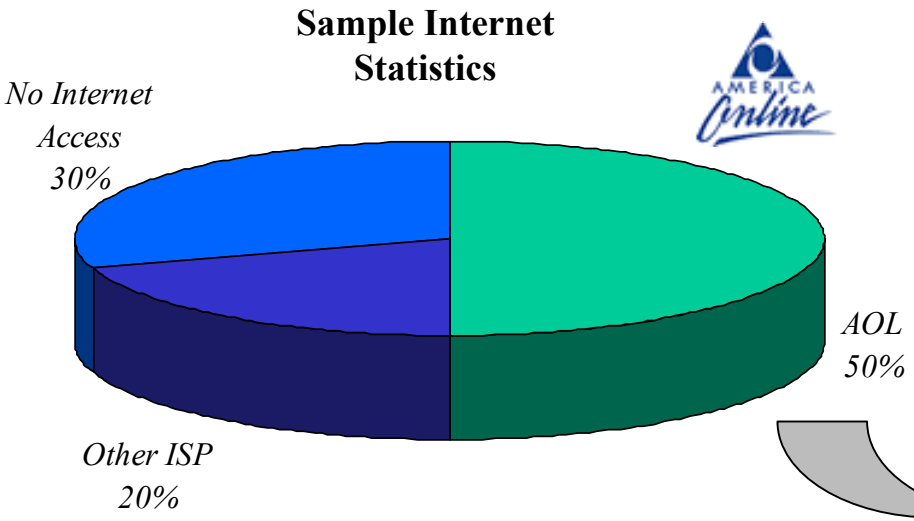
Population	*14,300*
Household (Parcels)	*4,000*
Businesses	*250*
Pop. Density	*540 / sq. mi.*
Average HH Income	*$52,300*

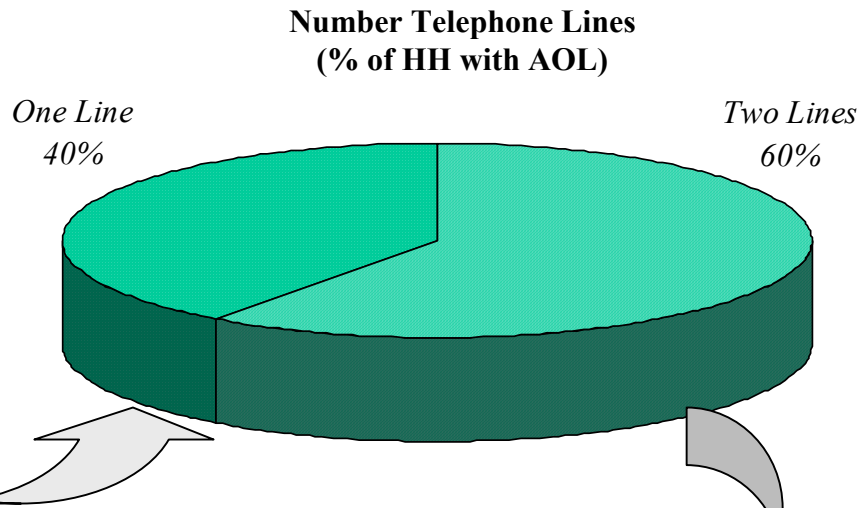
Source: http://www.state.nh.us/municipal/milford.htm.

Financial Estimates (Draft)*	*Year 1*	*Year 10*
Adoption Level Assumed	*15%*	*55%*
Capital for FTTH Buildout	*$4.1 million*	*$100,000*
Bond Financing	*$4.5 million*	*-*
Revenues	*$300,000*	*$1.2 million*
Debt Service	*$190,000*	*$350,000*
Operating Expenses	*$100,000*	*$250,000*
Free Cash Flow	*$10,000*	*$600,000*

** Subject to results of Feasibility Study; only broadband Internet is considered (no video, etc.)*

Revenue Sources: "Starting Point"

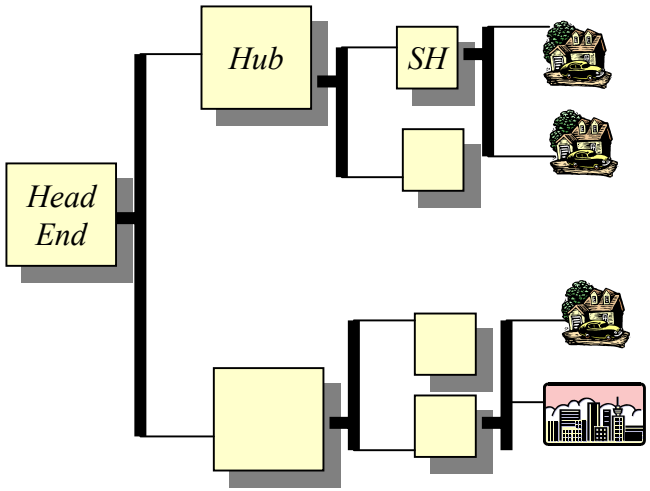




Number Households (HH)	*10,000*
Number HH with AOL	*5,000*
Number HH with Second Line	*3,000*
Effective Conversion Rate	*30%*
Second Line Fee / Month	*$25*
Revenue to Town (Annual)	***$900,000***

Municipal Broadband Network

"Back of the Envelope"



3,000 HH
$25.00 per month
12 months/year
=$900,000
Per year

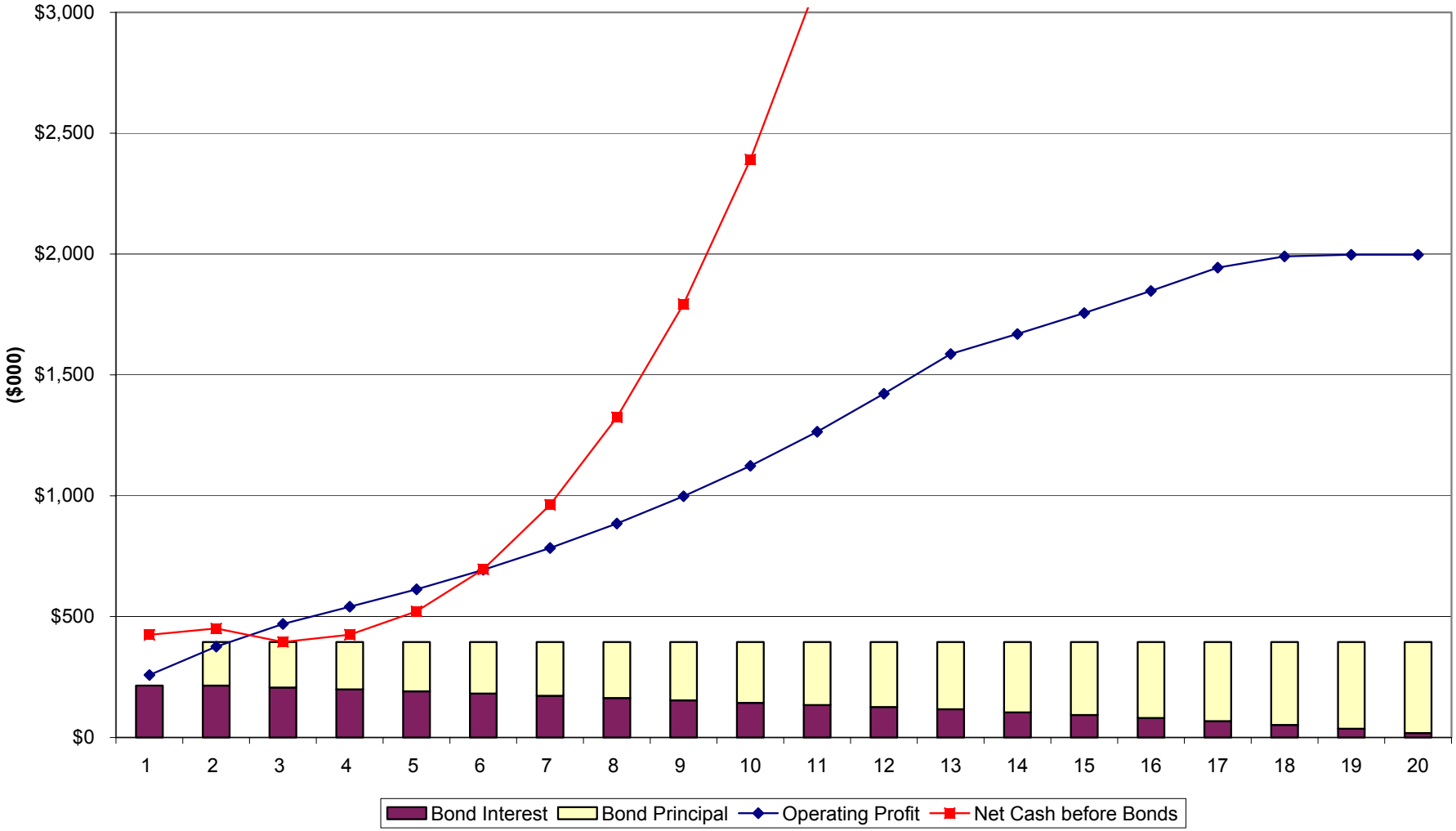
3,000 HH
$3,000 per HH
=$9,000,000
For plant

Payback Ratio

$$= \frac{\$9{,}000{,}000}{\$900{,}000} = 10 \text{ years}$$

Bond Interest Coverage = 160%
(after Operating Expenses; Bond interest 4.25%)

Bond Coverage Example



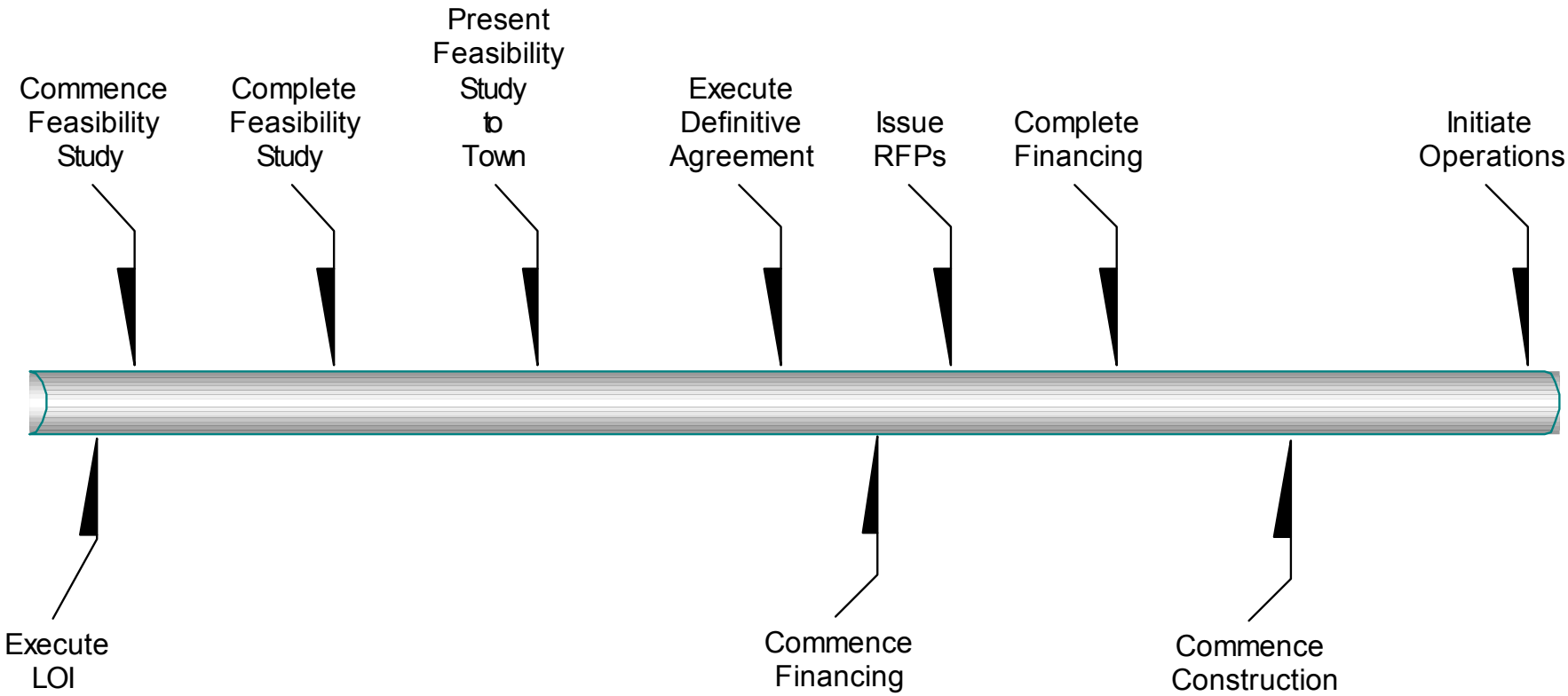
Payback Model

- *Not a quick Return on Investment (ROI) model*
  - *Industry targets ROI in 3-5 years*
- *Financing is long-term (20 years or more); expect 10 to 13 years payback period*
  - *Debt service*
  - *Capital Fund*
  - *Operations & Maintenance*
  - *Upgrades*

Feasibility Study Coverage

- *Market Research Analysis*
  - *Residential survey to determine market potential for enhanced broadband services*
- *Network Design*
  - *Architecture, technology, engineering issues*
- *Detailed financial analysis: revenues, capex, opex, etc.*
- *Revenue generation and bond coverage*
- *Regulatory and legal*
- *Opportunities and risks*

Schedule



The Merton Group

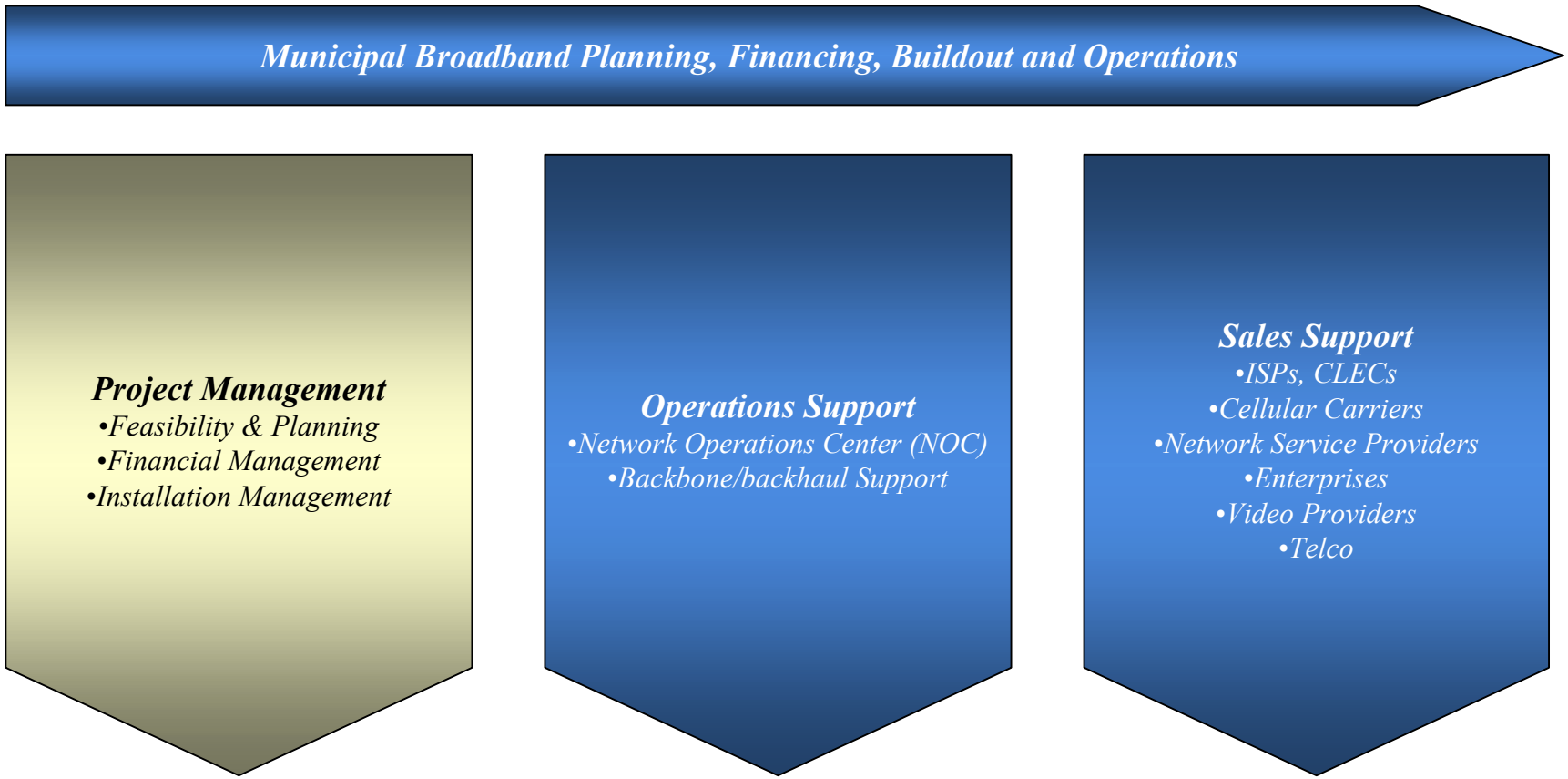
Who we are:

- *Merton Group is a financial and operations management company focusing on development of enhanced Municipal Broadband Networks and services infrastructures*
- *Merton provides turnkey financial and operational advisory, management, and operations support facilities and services to finance, install, and operate fiber-optic broadband*
- *Merton is a "service integrator"*
- *Merton Principals are former executives from NYNEX/Verizon and CATV (Warner, now AoL Time Warner) and Goldman Sachs*

Our past experiences:

- *Financed, constructed and operated largest IP fiber network in Central Europe*
- *Structured and executed over $1 billion of municipal bond financings*
- *Constructed and operated first Cellular network in New York and New England*
- *Constructed and operated multiple Operations Support Systems in US and Europe*
- *Initiated and successfully achieved regulatory change for interconnection from FCC*
- *Financed, constructed, and operated one of first CLECs in New England*
- *Successfully raised over $200,000,000 in financing for start ups*
- *Successfully performed turn around operations on over two dozen companies*

Merton Services



For more information, please visit us at www.mertongroup.com